

NOVEMBER / DECEMBER 2018 • VOLUME 1 • NUMBER 3

# AtariAge<sup>TM</sup>

magazine

OPEN PLATFORM • CUSTOMIZATION • ENDLESS POSSIBILITIES



# Linux

CLASSIC ATARI GAMES • NEW INDIE TITLES • OPEN LINUX OS



# Rediscover Atari Home Computers

**And discover how far you can go.**

With the return of the VCS, Atari has re-introduced the Atari Home Computer. With dual-boot capability between AtariOS and Linux, the VCS provides you with a robust Linux PC environment. One that has total access to all of the hardware to do everything the Linux world has to offer. The only limits are your imagination.

**Linux the way you want it.**

As of now, here are over 630 Linux distributions available and growing. Many are mission-specific distros, but all of them are wide-open to customize and configure the way you want to work, develop, create or play.

**A user interface a mother can love.**

Whether your tastes in computing come from Windows, or Mac - or somewhere in between - there's plenty of options in finding a distro that will work the way you want. Three of the most popular options are included in this issue will introduce you to the best Linux has to offer with the shortest path to getting started quickly with minimal effort and without tedious foraging in settings. Even better, most distros provide plug-and-play access with all common peripherals.

**Blast to the past.**

If you would like to return to the way Atari Home computers worked in either the 8-bit or 16-bit era, solutions for that are also available. Whether you want to play long-lost or forgotten games, or try historical applications, both can be emulated.

**Tools for any application.**

Besides the usual library of productivity applications, there are robust and professional tools available to make, create and produce anything for any media. Video, graphics, 3D design, Sound and music production and more. It's all ready for you to explore and to create - today.

**The console that makes games.**

Because it's a Linux-PC, you are free to make your own games either with Atari's provided development tools and libraries or to use anything you want in any language or development environment. Unlike previous consoles which isolated you from the architecture, Atari provides you with a platform to not just tinker, but develop complete and finished game titles to distribute in Atari's own game-store - or any distribution channels you prefer. What you want to make and how you want to distribute your creation, it's up to you. You have total freedom and free access to both the system, and your audience.

**Broadcast yourself.**

After you've created your content or developed your own game-title, you now have a platform for getting the word out to the world - live and direct. Streaming services like Twitch, Stream.me, YouTube and more are available to get the word out - or to share your ideas and opinions with everyone, everywhere, anytime. Create your own channel, share your gaming skills or collaborate with your audience in real-time.

**The choice is yours.**



# Cosmic

40 million desktops and rising everyday.

Based on Debian, Ubuntu first appeared in 2004 and has exploded into the most popular distro for desktops and servers. New releases appear every 6 months to support improved features and security - all free of charge - with the latest release being 18.10 or "Cosmic Cuttlefish".

## From Unity to Gnome.

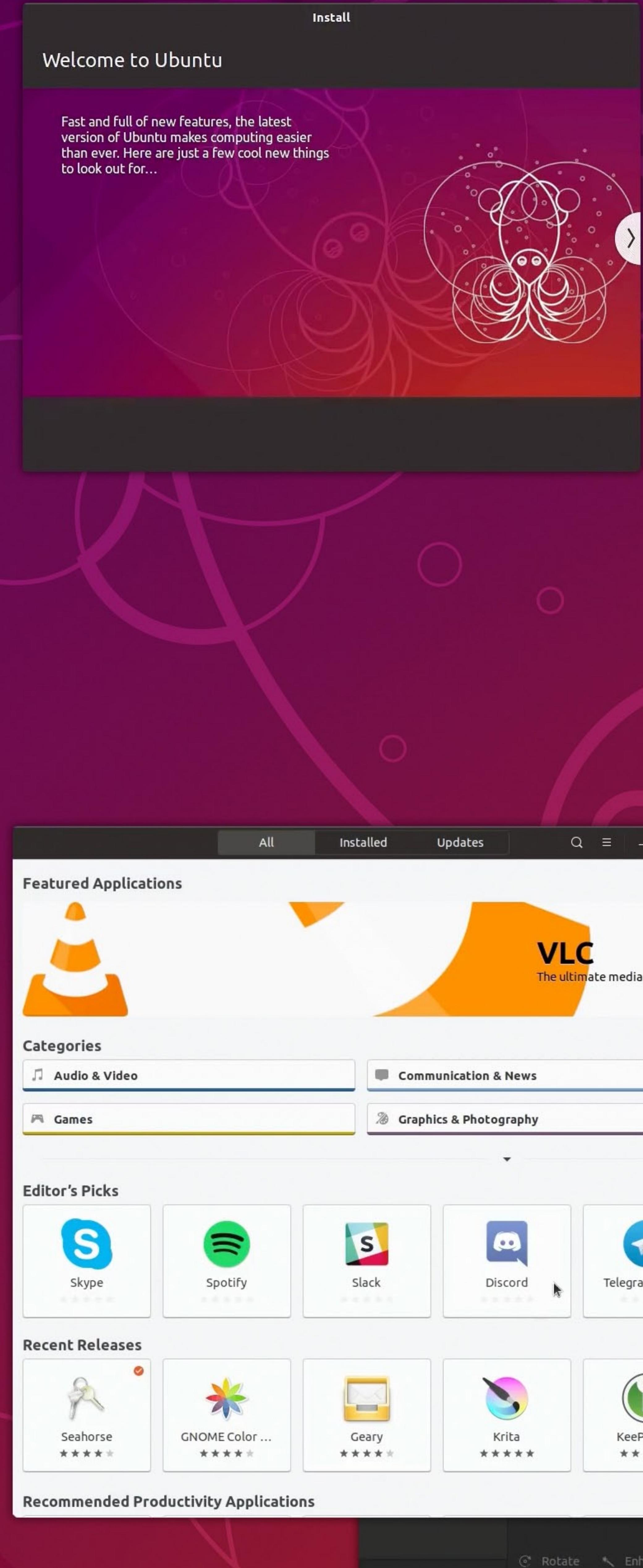
Previous to 17.10 Unity was the desktop interface for Ubuntu. Contemporary flavors now sport the GNOME shell with improved features and extensibility guided by the GNOME UX design team. Features include : Top bar, System status area, Activities Overview, Dash, Window picker, Application picker, Search, Notifications and calendar tray, Application switcher and Indicators tray.

## Ready by default.

Included in the installation are all you need to hit the ground running with productivity apps such as LibreOffice, the Firefox web-browser, Transmission, bittorrent and more. A wide range of applications and tools always readily available through the Ubuntu Software app (previously the Ubuntu Software Center).

## Safe and Secure.

Keeping with the philosophy of out-of-the-box security, apps run with low privileges and cannot corrupt the OS or user files. Even sudo-installs are limited in root access - preventing mistakes that could brick your system. Also included are firewalls for network security & file encryption options.



# Cuttlefish

## Faster than the past.

The latest update to Ubuntu contains the most improvements under-the-hood of any release in the last year providing more speed and stability than ever before. Shell developers have spent considerable effort in making sure memory requirements have been reduced and with improved performance to animations and the shell manager. They sound small individually, but they add up to a much faster and more robust user-experience.

## Welcome to Yaru.

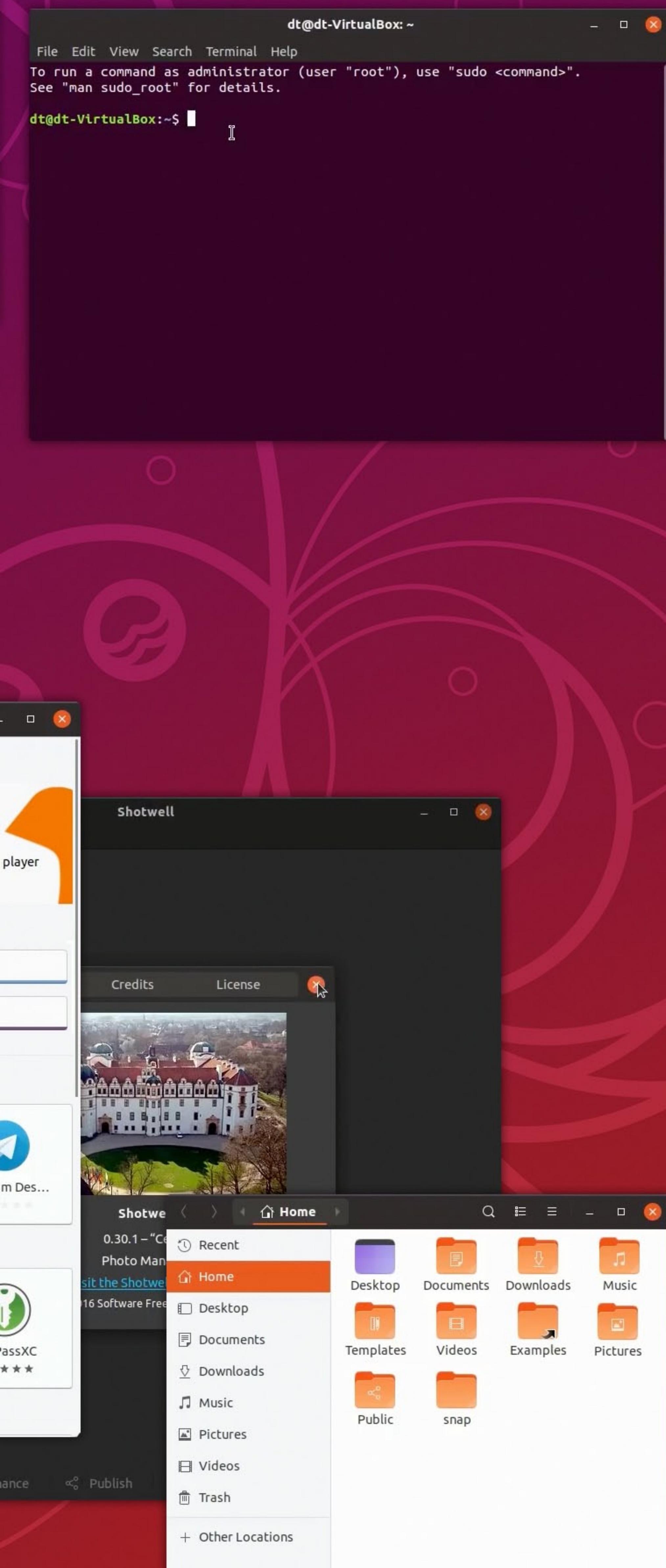
The new theme ditches dated look and feel for a more modern theme complete with new colors and elements such as menu colors and elements. Menu colors and the Suru icon-set provide a consistent uniformity that insures a unified UI feel.

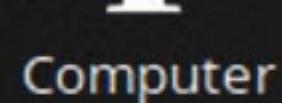
## New kernel features.

Running on Linux 4.18, Cosmic Cuttlefish adds support for AMD Radeon RX graphics as well as improved support for USB Type-C devices. Mesa 18.2 graphics drivers and now included improving support for VEGA GPUs and OpenGL 4.4.

## Desktop of choice.

Ubuntu's features, include what it doesn't. Software bloat isn't a thing - which is why it's been widely adopted by Google employees and professionals worldwide. Even Mac-fanatic Stephen Fry is among the many celebrity users who are counted in the ever-growing user-base. For speed, simplicity and security - Ubuntu is a great way to get introduced to what Linux has to offer.





Computer



Home

# Linux Mint

## Top of the pops.

Using the Ubuntu codebase, Linux Mint has been topping the recent ranks in both popularity and adoption. In addition to free and open-source software, Linux Mint comes out of the box with plug-ins and codecs that while proprietary, let the user hit the ground running with a smooth user-friendly experience that has topped all of the recent adoption charts.

## More by default.

In addition to the default tools found in Ubuntu, you'll find productivity and media apps like VLC, GIMP and more - pre-installed and ready.

## Wine snob.

Also present is the Wine compatibility layer - so migrating many Windows productivity applications and games are a breeze. If that isn't sufficient, VMware, VirtualBox or KVM virtual machine support is also available.

[All Applications](#)

Accessibility

Account details

## Number Nineteen.

Graphics

Internet

Code named Tara, Linux Mint 19 provides improvements in both performance and visual appearances. Sporting a new minimalist and uncluttered flat GTK theme, Linux Mint is sleeker and faster than ever before.

Universal Access

Applets

Archive Manager

Backup Tool

Bluetooth

Calculator

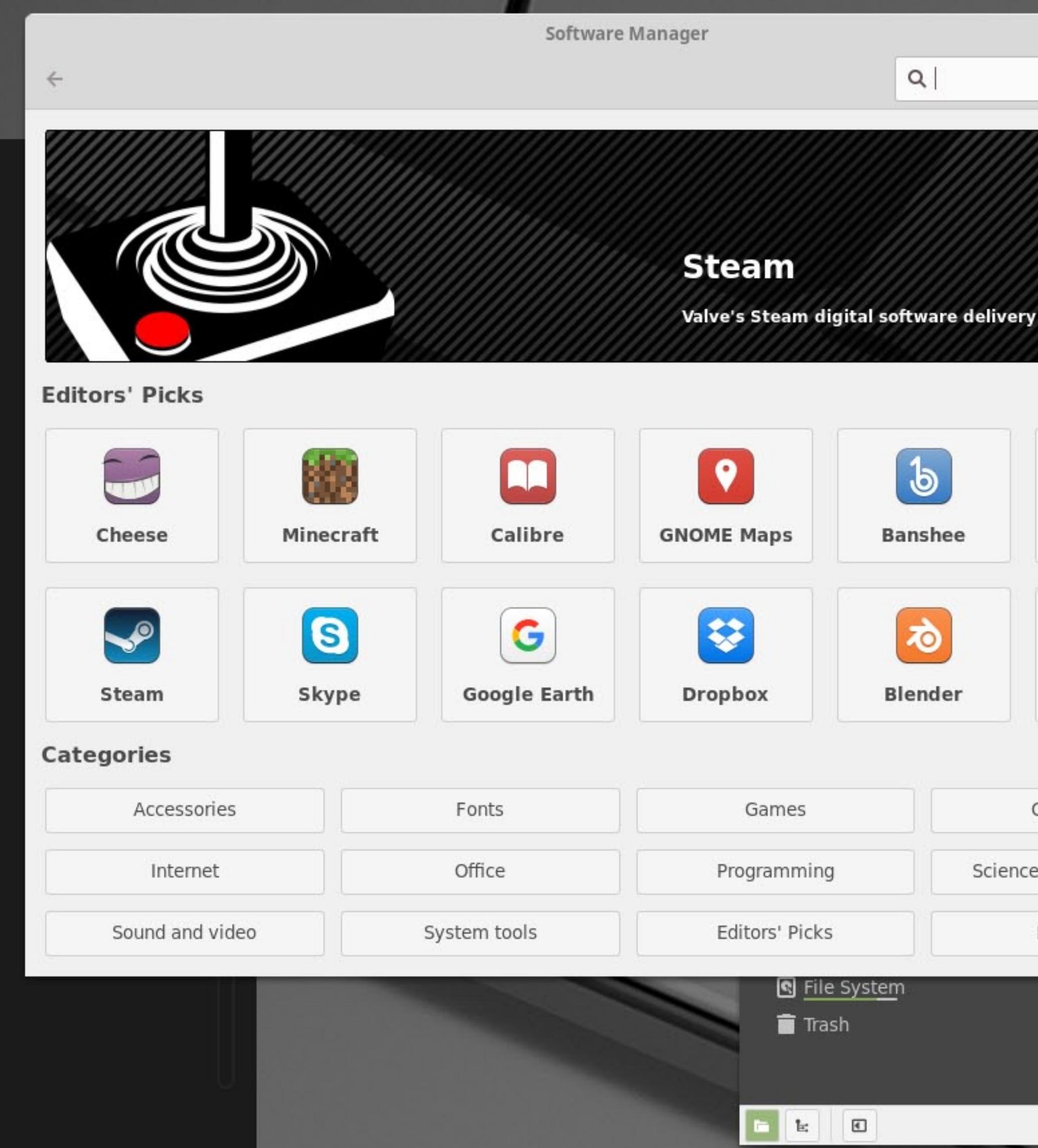
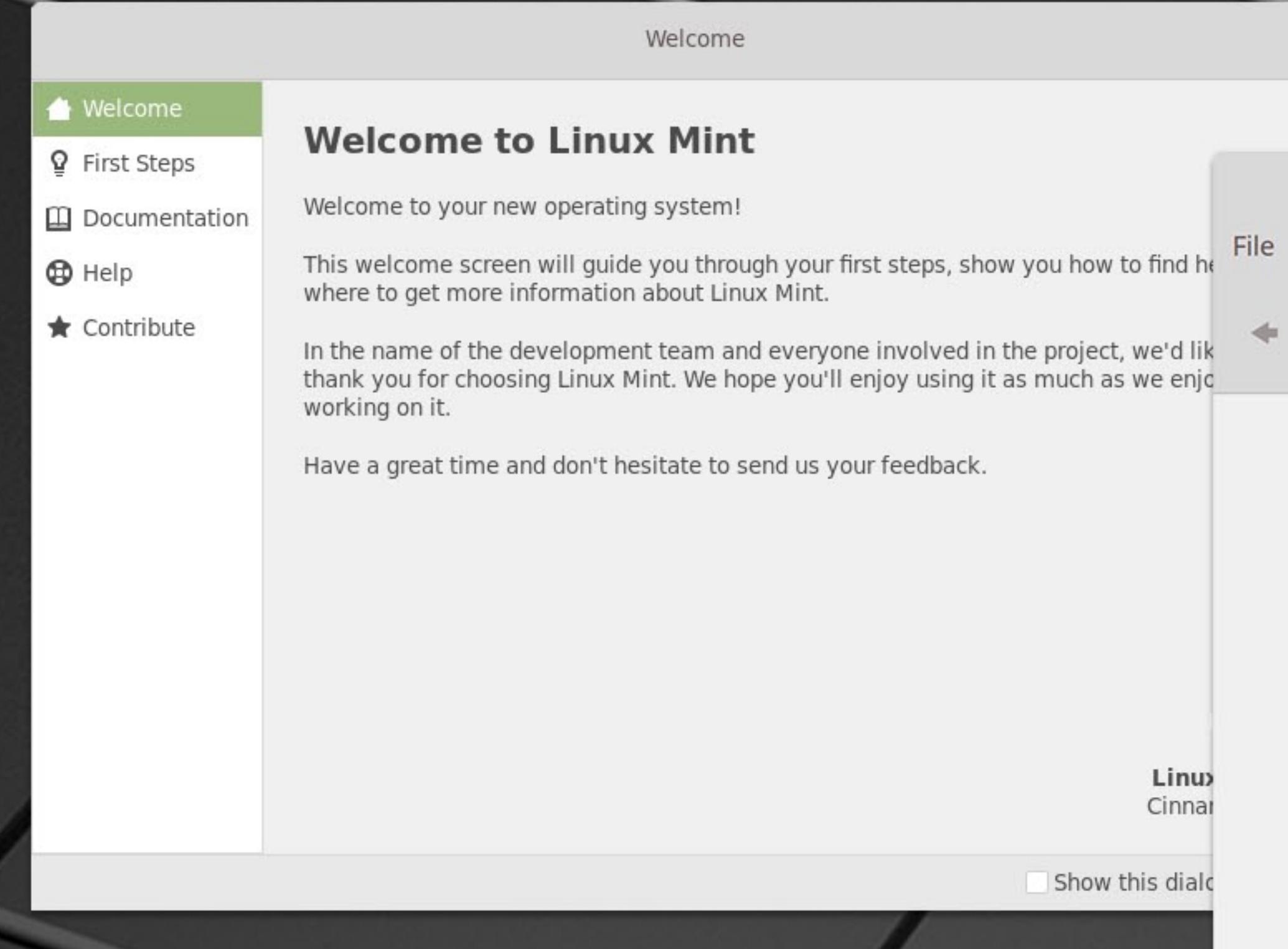
Calendar

## Doing the Time Warp.

Preferences

Places

Included in Linux Mint is an improved Timeshift support. Versioning is now bundled in the updater, making restoring from a previous backup simple.



# 19 Tara

## A faster software center.

Finding and installing multiple apps is now faster than ever - and faster than Ubuntu. Sporting a new interface, you can not only browse software but install it in a single click. With flatpak support, users can insure they are up to date with all of the latest major open-source applications.

## Automatic updates.

Keeping current is now even simpler with a new update manager that includes the option for auto-upgrades. Improvements to Kernel management have also been improved as well as managing software sources.

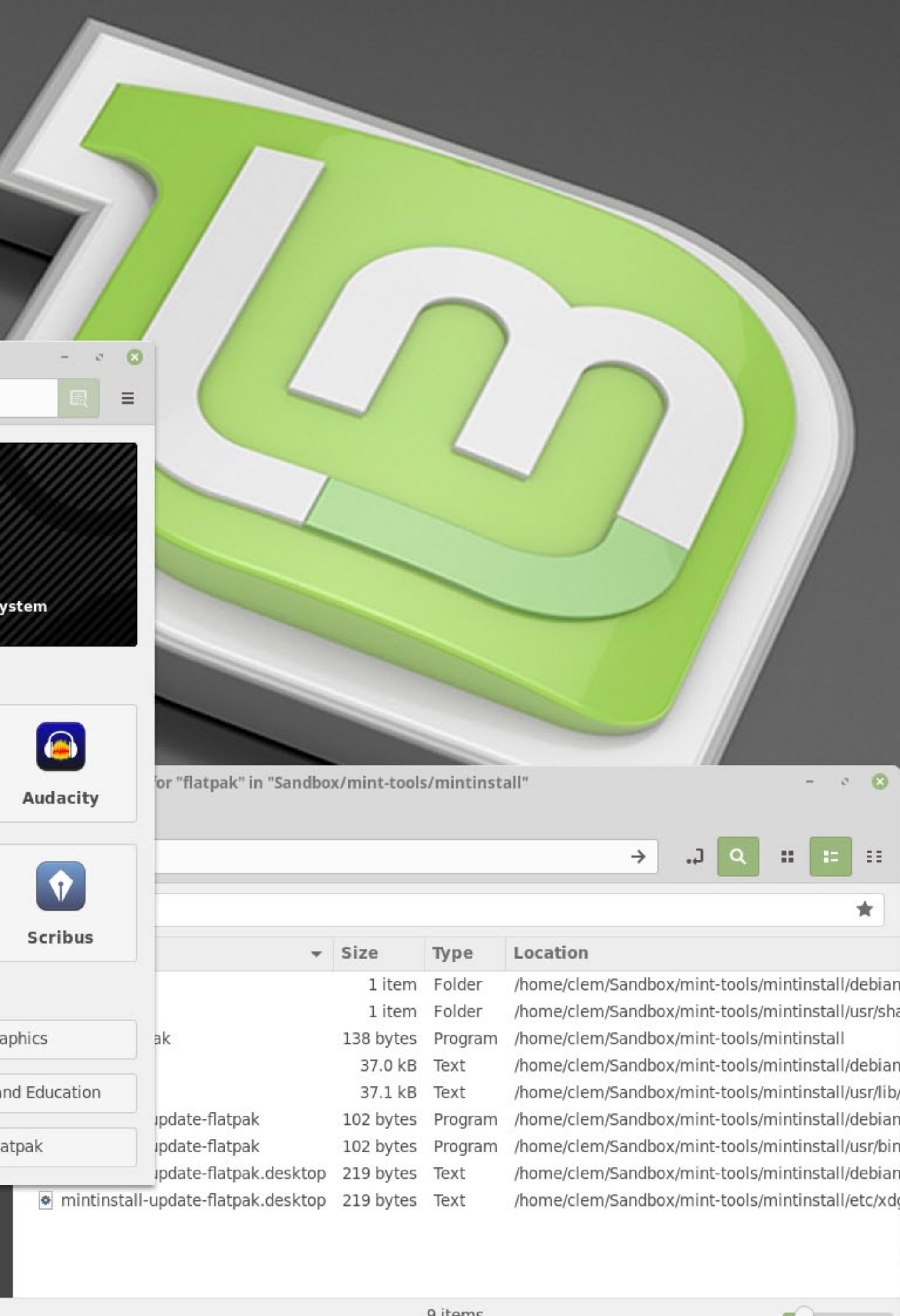
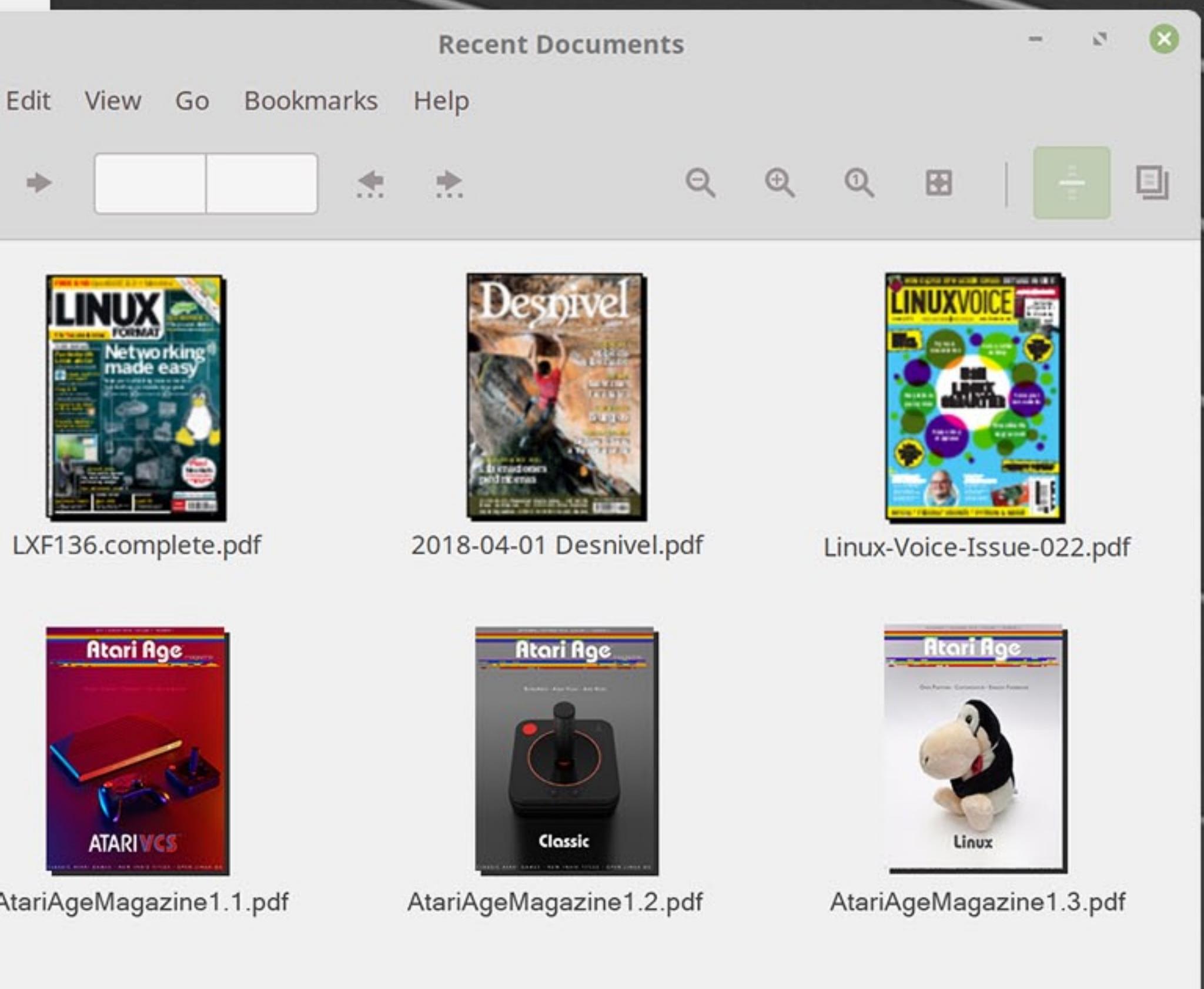
## Faster than ever.

A small issue just got smaller. Boot times have been reduced to 5 seconds for users making it one of the fastest - if not 'the' fastest - distro available for users who want to get to work quickly.

## New or Power user friendly.

As someone who has been using Linux for years or those new to the open-source world, Linux Mint has been famous for providing a stable and smooth environment for almost any type of user. You may find better distros out there to migrate to, but out-of-the-box, Linux Mint is hard to beat. Whether you're looking to browse, play games, watch videos or any activities you've done before - you'll find more than enough options available that are both familiar and comfortable.

Simplicity and elegance is here.



# elementary OS

Linux with attention to detail.

Based on Ubuntu's LTS releases, elementary OS provides a different look and feel to other distros in that it adheres to published look-and-feel UI guidelines impressed on developers who distribute apps in the elementary OS AppCenter. All of the UI considerations go beyond even the highest UI standards in other popular Linux distros.

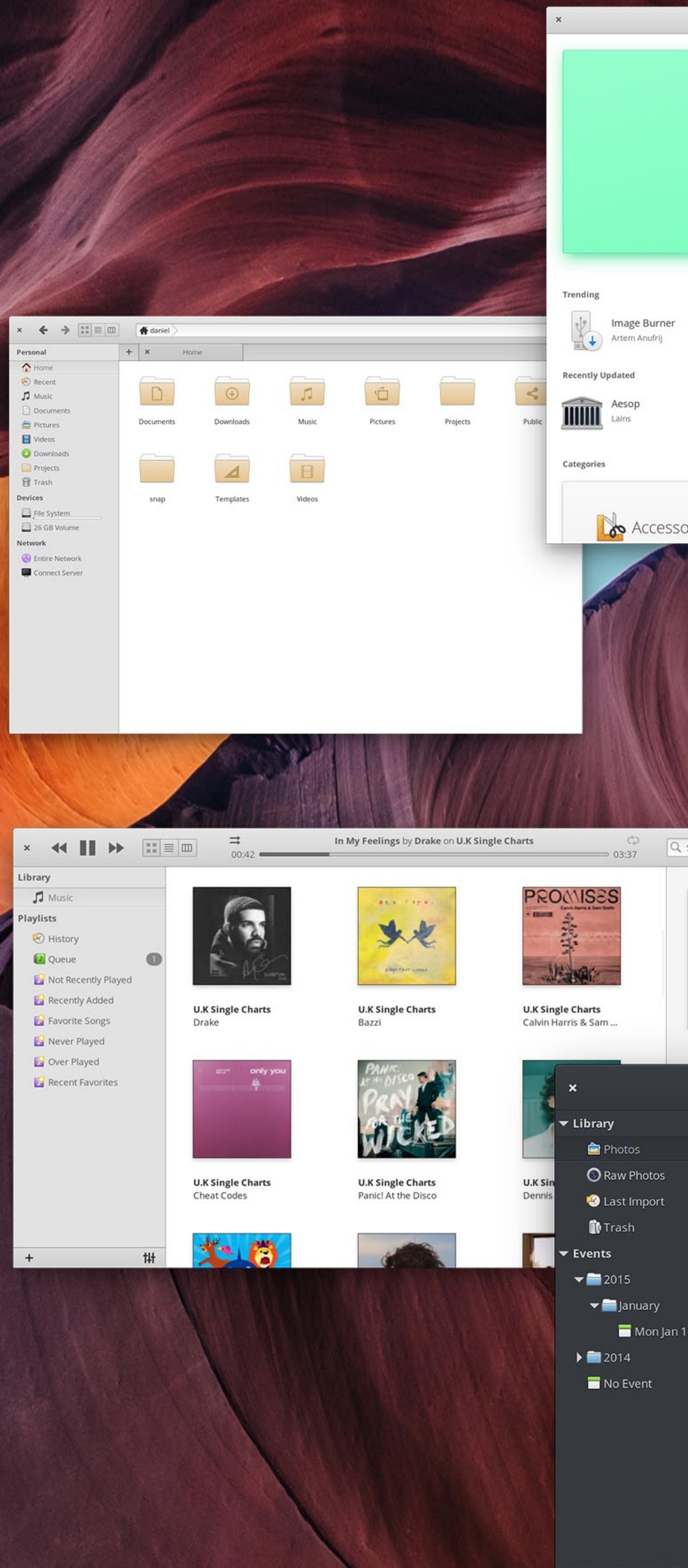
## Mac vs. Maclike.

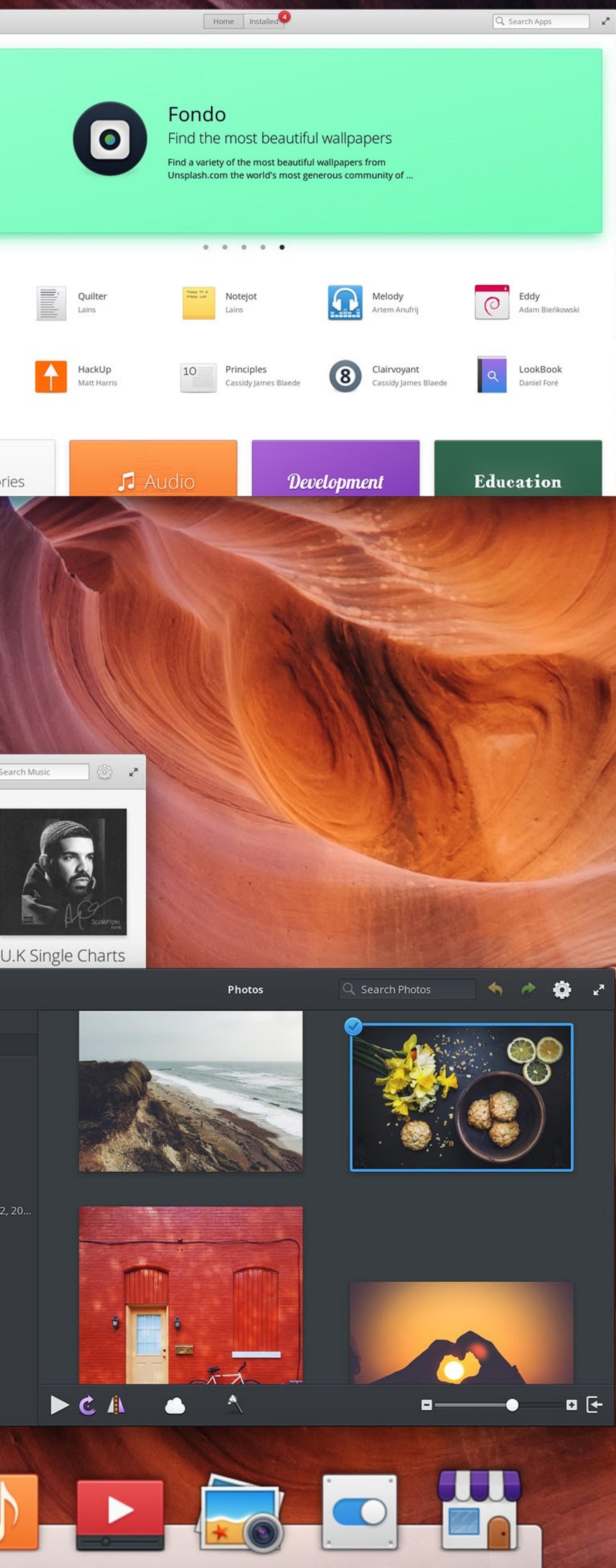
People have compared elementary OS to OSX and at first glance, it's easy to see why. Like Apple, elementary LLC have removed clutter, have a painstaking attention to detail, color-usage, features and fonts used throughout. They also adhere to the less-is-more philosophy in terms of settings and options. It isn't OSX however - but by embracing the same UI principles and attention to detail - the results feel instantly familiar to Mac users.

## An AppCenter with a difference.

elementary OS is less about creating an Ubuntu variance and more about creating apps that are curated and actively supported. All applications on display - while open-source - feature suggested prices by developers. All of them are (ultimately) pay-as-you-want similar to tip-jars or shareware, but provide an extra layer of support for programmers to apply their craft with revenue. This provides a better layer of support for users and a complete ecosystem for developers without creating prohibitive costs for newcomers or people wanting to evaluate new tools before committing.

A win-win for both the user and the coders alike.





# 5 Juno

An OS for getting started fast.

elementary OS is best known for getting people to work with minimal documentation and for being used immediately. Customization exists, but is kept away from the foreground of the user experience. Besides streamlining performance, it provides an easy get-to-work environment that eschews endless tweaking and parameters.

**Bundled without the bloat.**

The bundled apps present are all of the traditional tools for managing music, photos, mail and browsing. These are carefully chosen from best-of-breed candidates, removing all-too-common app-bloat often found on other distros.

**Juno 5 is alive.**

The latest release of elementary OS provides a faster and improved UI for both productivity as well as improved tools for developers. All primary apps have been refined and unified to provide a consistent experience with tighter integration of functions & options. Upgrades include security, performance, icon libraries, color palettes, sound design, housekeeping, animations, location services, Bluetooth settings, privacy, picture-in-picture functionality, languages & localization and more. elementary OS updates are less frequent but more comprehensive than other distros and it shows.

**In for the long-haul.**

Between user donations & large-scale backers the elementary OS team is set to make Linux an even more popular option for users for years to come.

# 8-bit emulation

## Atari's second computer(s).

The 8-bit series from was (actually) the second home-computer concept conceived at Atari. During Apple's development of the Apple II, Steve Jobs hired-away Atari's engineer Rob Holt to work on a switching power supply. Much to engineering VP and Pong creator Al Alcorn's dismay. Steve didn't stop there. He continued to drain manpower away from Atari's development groups causing Joe Keenan to initiate an Apple II clone which would be sold cheaper and at greater numbers (knowing word would leak out to Apple). Steve Jobs discovered the growing drama & agreed to stop pilfering Atari's staff in exchange for the project's cancelation.

## The VCS follow-up.

Atari's Grass Valley group in 1976 estimated (hilariously in hindsight) that the VCS would only have a 3 year lifespan. Thus, the sequel to the 1977 console was developed in-tandem by many of the same minds who would go on to develop the Amiga - minds like Jay Miner. Like all of Jay's designs, his team dedicated chips to reduce CPU tasks like graphics, sound and IO which would be handled by CTIA and ANTIC. The console-strategy changed when home computers from Apple, Tandy and Commodore hit the scene. This spurred Atari-Warner to release the finished concept as the Atari 400 and 800 family of Home Computers. These would go on to be rechristened as the XL and XE series in later years and were produced until 1992.

## Discover how far they went.

To emulate Atari 8-bits, there's "Atari++". It's emulation is cycle-precise, supporting programs using horizontal kernels & modified chip registers.



# 16-bit emulation

Jay Miner inspired.

In another twist of fate - Atari's next step in computers - the 1850XLD - was to be Atari's first 16-bit platform. It was based on a Lorraine chipset from Jay Miner's Amiga design group (then called Hi-Toro) who was under contract with Atari who funded continuing development in 1982. By 1983, everything was unraveling at Atari-Warner leading to the birth of Atari Corp when former Commodore CEO Jack Tramiel secured Atari from Warner in July of 1984.

**Changing of the guard.**

While Jack was planning a new 16-bit computer with former Commodore engineers, Miner's Amiga group negotiated with Commodore for their platform. The result was both technologies swapped partners in 1984 – with the Commodore engineered Atari ST computer coming out first in June of 1985 and the former 1850XLD introduced as the Amiga 1000 by Commodore in July.

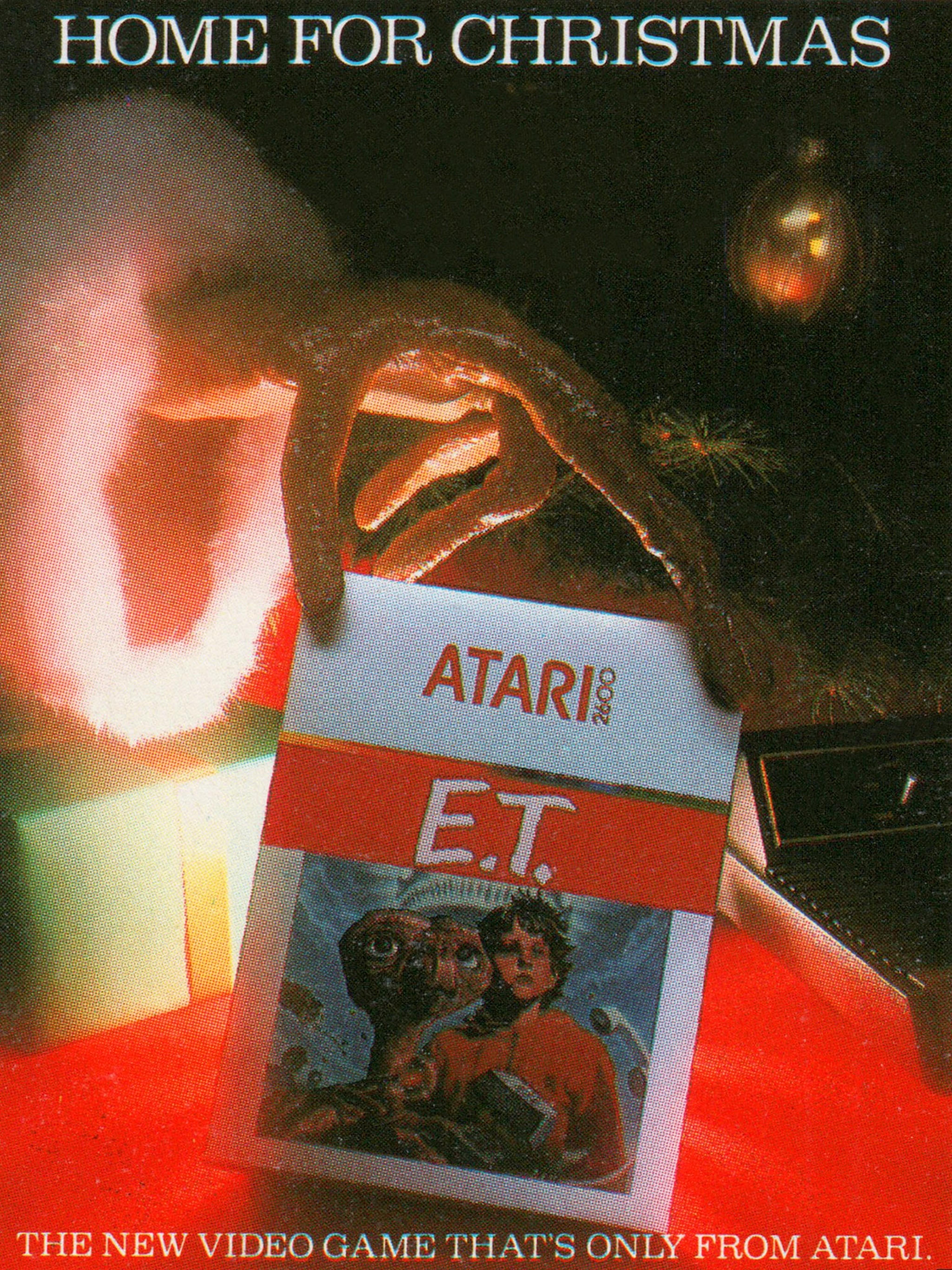
**Digital Research finally beats Microsoft.**

Digital Research was still recovering from missing out on licensing CP/M to IBM for the 5150 in 1981 which resulted in Microsoft's DOS. Microsoft approached Tramiel to port Windows to Atari's new computer - however - Windows still had 2 years left in development. Atari didn't want to wait. Instead, Digital Research managed to secure the ST-OS project which became GEM and Atari TOS.

**Test drive an Atari ST - today.**

To run ST/STE/TT & Falcon apps, games and demos, "Hatari" provides users the means to rediscover Atari's second generation of computers.

# HOME FOR CHRISTMAS



THE NEW VIDEO GAME THAT'S ONLY FROM ATARI.

# MORE COLOR. MORE SOUND. MORE GRAPHICS CAPABILITIES.



Compare the built-in features of leading microcomputers with the Atari personal computers. And go ahead, compare apples and oranges. Their most expensive against our least expensive: the ATARI® 400™.

Start with graphics capabilities. The ATARI 400 offers 128 color variations, 16 colors in 8 luminance levels. Plus 29 keystroke graphics symbols and 8 graphics modes. All controlled from a full 57 key ASCII keyboard. With upper and lower case. And the system is FCC approved with a built-in RF modulator. That's just for openers.

Now, compare sound capabilities. Four separate sound channels and a

built-in speaker. With the optional audio/digital recorder, you can add Atari's unique Talk & Teach™ Educational System cassettes.

Here's the clincher: Solid state (ROM) software. For home management, business and entertainment. Or just plug in an Atari 10K BASIC or Assembler language cartridge and the full power of the computer is in your hands.

Memory? 8K expandable to 16K. And that's just for the ATARI 400 at a suggested retail of only \$549.99.

The ATARI® 800™ gives you all that and much more.

User-installable memory to 48K. A full-stroke keyboard.

With a high-speed serial I/O port that allows you to add a whole family of smart peripherals. Including up to four individually accessible disk drives. And a high speed dot-matrix impact printer. And, the Atari Program Recorder is included with the 800 system. Suggested retail price for the ATARI 800 (including recorder) is \$999.99.

Make your own comparison wherever personal computers are sold. Or, send for a free chart that compares the built-in features of the ATARI 400 and 800 to other leading personal computers.



## PERSONAL COMPUTER SYSTEMS

1265 Borregas Ave. Dept. C, Sunnyvale, California 94086. Call toll-free 800-538-8547  
(in Calif. 800-672-1404) for the name of your nearest Atari retailer.



# Creation Tools

## The means to create.

While the Atari VCS will be used by many as a consumption platform, it's equally suited to create content as a Linux PC. Whether you're doing illustration, 3D design or multimedia content, the VCS is ready to be put-to-work. In the next pages, you'll find some of these examples explored in-depth so you can hit the ground running, and create whatever you demand. Even making games for the very hybrid console-computer you're playing on.

## 2D and 3D design tools.

From illustration to photoillustration to 3D design for animation or CAD - you'll find professional quality tools - without the price.

## Video editing.

You have the ability to create video content ready-made for YouTube or other distribution channels - all at a fraction of the cost of other solutions.

## Sound and music.

In conjunction with video - there's audio and the ability to mix, compose, create and edit sound & music for SoundCloud or for use in video projects. From casual-use applications, to high-performance tools the professionals are using today.

## Game development.

Why just play games when your console can create them? Without any restrictions on accessing the VCS architecture, and a bevy of tools ready to use - from Atari's development kit, to industry-standard engines - you've got game.

# 2D

## Professional without the price.

Although it may be tempting to install the Adobe Creative Suite on a Wine enabled Linux Distro, there's many options available for illustration, photoillustration and digital artwork tools which don't require an expensive and long term commitment to expensive monthly subscriptionware.

### Vectors vs Pixels.

Vectors are key and king when it comes to scalable and versatile illustration. From technical drafts, to packaging and promotional material - nothing beats vector-graphic formats for creating clean scalable renderings that remain independent of final output size and resolution.

That means regardless of size changes, from poster to billboards, the image stays true to the source. Unlike pixels which lose clarity or are lost when downscaling. File sizes are also small on even the largest images.

### Inkscape.

Evolved from Sodipodi as a code-fork Inkscape has been widely used and supported since 2003. Besides the usual features, Inkscape also supports operations on paths, layers, opacity, SVG filters, rendering tile multiplication, and improved performance with large font libraries. Inkscape also supports most vector file formats including SVG, PDF, VSD, CDR, AI, SVGZ as well as exporting to bitmap / raster file formats.



# Tools



## GIMP.

Ever since Photoshop became a standard on Mac and Windows desktops, the Linux world has been in an arms race for parity. GIMP has been leading the charge since 1996 and with recent improvements in UI in the 2010s it's no longer a substandard alternative. With a less cluttered interface and support for single and multi-window editing, improved layer and history support, automated scripting, a wide range of filters and plug-ins and a wider array of supported file formats - GIMP is now the Open-Source standard for image editing and photo-illustration.

But it's hardly the only one. Forks of GIMP include CinePaint (for frame by frame film retouching), GimPhoto (which mirrors Photoshop workflows and UI similar to GIMPshop) and task-based extensions like GAP (for creating animations), GPS (tools for bypassing repetitive tasks with an expanded brush-set) and Resynthesizer (for managing textures, object removal and context-aware fills).

## Krita.

Since 2005, Krita has been the tool of choice for animators and digital painters - particularly those with graphics tablets and graphic tablet monitors. Krita offers improved PSD file support, object layers, improved animation support as well as vector art capabilities. The most noteworthy feature of Krita would be the attention to UX design combined with support for concept-artists, illustrators and texture artists as well as the VFX community. Forks include Krita-Gemini (optimized for tablets) and Krita-Studio which is commercially supported for movie and professional VFX studios.

# 3D

Expansive doesn't have to mean expensive.

Previously exclusive to closed-source software and cost-prohibitive workstations, open-source software and modern Linux platforms offer a wide range of tools to develop visual effects, models, animated films and libraries for video games. You can still find quadruple-digit cash tools for Linux like Maya or Mondo - but the free and open-source community has been hard at work on alternatives for over 20 years.

Not just the kitchen sink - the entire kitchen.

Blender literally does it all. VFX, game and interactive applications, models, UV unwrapping, texturing, raster graphics editing, rigging & skinning, fluid and smoke simulation, particle effects, soft-body simulation and sculpting, animation, matching, rendering, motion-graphics, video editing and compositing - among other capabilities.

Features for miles.

Some of the many features supported by Blender include : Geometric primitives, including polygon meshes, fast subdivision surface modeling, Bezier curve editing, NURBS surfaces, metaballs, icospheres, multi-res digital sculpting (including dynamic topology, maps baking, remeshing, resymetrize, decimation), outline font, and a n-gon modeling system. For starters.

An internal render engine with scanline rendering, indirect lighting, and ambient occlusion that can export in a wide variety of formats.

A pathtracer render engine called Cycles, which can take advantage of GPU rendering. Cycles also supports the Open Shading Language





# Tools

Integration with a number of external render engines through plugins.

Keyframe animation tools with inverse kinematics, armature (skeletal), hook, curve and lattice-based deformations, shape animations, non-linear animation, constraints, and vertex weighting.

Simulation tools for soft body dynamics plus mesh collision detection, LBM fluid dynamics, smoke simulation, Bullet rigid body dynamics, ocean generator with waves.

A particle system that for particle-based hair.

Modifiers for applying non-destructive effects.

Python scripting for tool creation & prototyping, game logic, importing/export formats, task automation & custom tools.

Basic non-linear video editing.

A fully integrated node-based compositor within a rendering pipeline accelerated with OpenCL.

Procedural and node-based textures, including texture painting, projective painting, vertex painting, weight painting and dynamic painting.

Real-time editing control during physics simulations and rendering.

Camera & object tracking.

Pencil tools for 2D animation within a 3D pipeline.

**But wait - there's more.**

Too much to contain in a single issue to be honest. We don't have room to touch on its lighting and ray-tracing shaders among its metric-ton of features.

**And that's just one app.**

Others worth mentioning include : Equinox 3D, FreeCAD, Clara.io, DAZ studio, DesignSpark Mechanical, K-3D, MikuMikaDance, OpenSCAD, Wings 3D, Zmodeler among many many others.

# Game

## Power to make your own games.

Right out of the box, the Atari VCS is ready to provide a platform to not only entertain, but to create your own entertainment. Like any Linux PC, the VCS has industry-standard options for game creation including Unreal Engine 4 and Unity 3D.

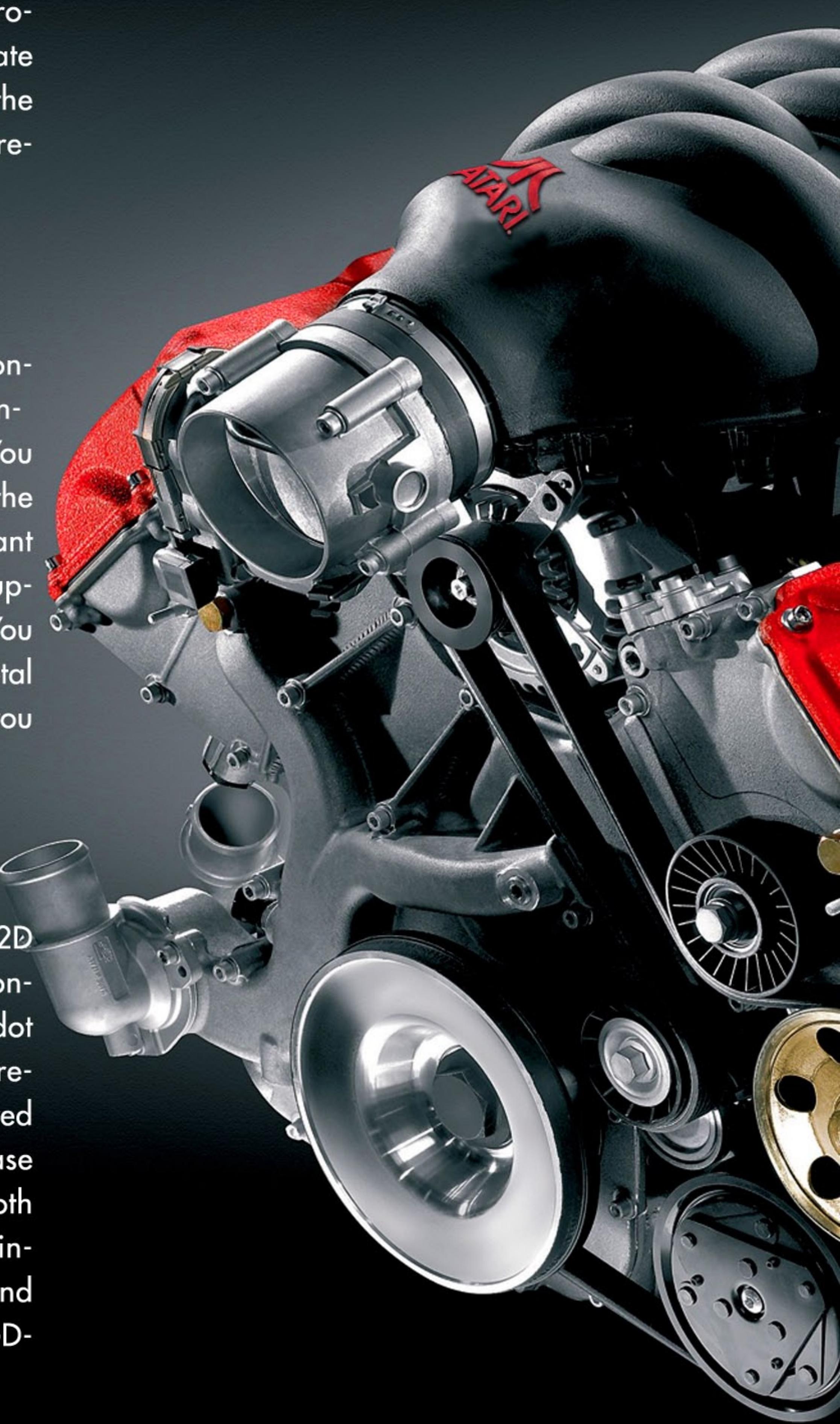
## Free and unrestricted.

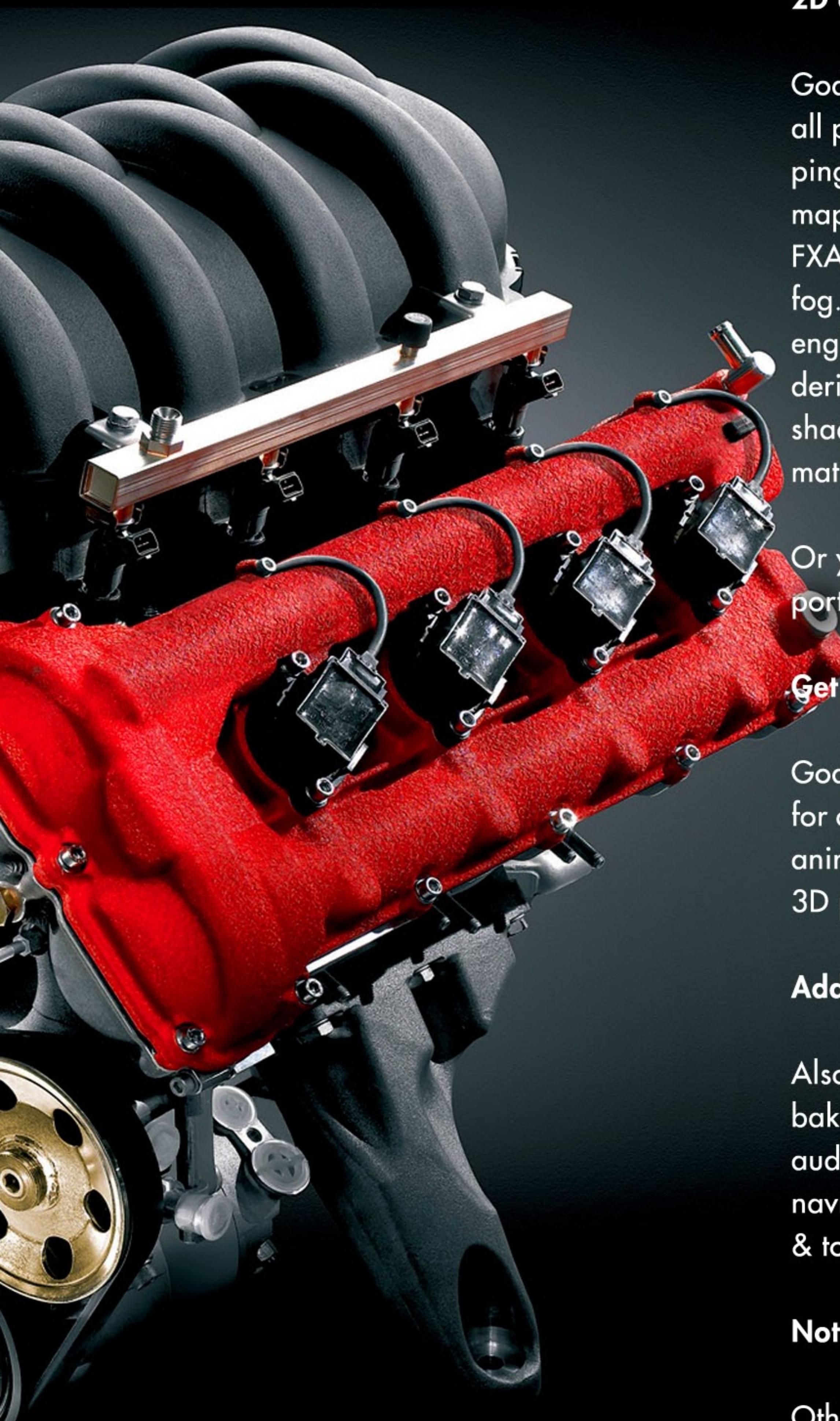
For a truly free and open development environment, you want your tools to be open and non-proprietary. You don't want vendor lock-in. You don't want licensing limitations. You don't want the rug to pulled out from under you. You don't want tool exclusions. You don't want suspension of support. You don't want to have to pay royalties. You don't want hidden fees or surprises. You want total ownership without legal jargon and most of all you want indie to truly mean independent.

## You've been waiting for Godot.

Developed under the MIT license - Godot is a 2D and 3D cross-platform and integrated environment. For those new to game development - Godot provides a scene based architecture with all resources, from scripts to graphics assets to be saved within a standard file-system vs a database method. This provides huge advantages for both collaboration plus version control. Most of all it includes an ease-of-use for both programmers and non-programmers alike with C++, C#, and GDScript (similar to Python) support.

Godot also features support for porting your creations to Windows, OSX, Linux, FreeBSD, OpenBSD / DragonFly BSD, Android and iOS.





# Development

## 2D and 3D game support.

Godot's graphics engine supports OpenGL ES3 for all platforms as well as transparency, normal mapping, specularity, dynamic shadows using shadow maps and full-screen post-processing effects like FXAA, bloom, DOF, HDR, gamma correction and fog. Godot also provides a separate 2D graphics engine independent of the 3D engine for 2D rendering which provides support for lights, shadows, shaders, tile sets, parallax scrolling, polygons, animations, physics and particles.

Or you can do both at the same time using a viewport mode.

## Get animated.

Godot includes a robust animation layer with GUI for creating & editing skeletal animation, blending, animation trees, morphing & real-time cutscenes. 3D physics is provided via the Bullet-engine.

## Additional features.

Also included : Performance analysis graphs, light baking, multithreading, render targets, video & audio playback, a particle system, texture pipeline, navmesh support and keyboard, mouse, gamepad & touchscreen support.

## Not the only game in town.

Other free and unrestricted game engines available include GarageGames' Torque-3D engine as well as 3D specific engines such as Ogre 3D, libGDX and Irrlicht. Open 2D engines like LÖVE and Cocos 2D are also worth a look.

# Video

## Video editing for any taste.

Whether you're looking to create a short personal video to a full-blown film, there's a wide range of solutions in both open-source flavors as well as freemium. All include a long list of features and capabilities for both the newcomer or the power-user.

### KDenlive.

Free and open-source - Kdenlive provides multi-monitor support, multi-track times lines and clip lists, customizable layouts, effects and basic transitions. Most industry standard formats and codecs are supported with an interface tuned for the novice editor.

### OpenShot.

Another novice to mid-level open source, multipurpose editor is OpenShot which features support for transitions, titling, compositing, 2D animation and image sequences, 3D titles and effects, SVG file support, unlimited tracks and layers, time mapping and speed changes, audio mixing and editing as well as the usual host of clip management as well as digital video effects.

### Shotcut.

This open-source app includes support similar to KDenlive and OpenShot but also includes support for external monitors and 4K video.

### Flowblade.

Lightweight and fast, this general purpose editor gets the job done and supports proxy editing.





# Editing

## Lightworks.

Climbing up the capabilities chart comes an app for the professional. Not open-source, this free-mium application has a non-linear editing pedigree that supports high-resolutions and Blue-Ray production. It also provides real-time editing, royalty free content-libraries as well as all the features expect from a professional-grade video editor.

## Cinelerra.

Celebrating it's 20th birthday in 2018, Cinelerra has over 5 million downloads under its belt and is a decent all-purpose video editor although not necessarily for beginners.

## DaVinci Resolve.

For Hollywood level video editing, DaVinci is the standard-bearer used by professionals in movies and television. Naturally it's not open-source, and while the pro-version comes in at 300-dollars, it isn't your average video-editor - but is a full-fledged editing suite including advanced color correction and professional audio post-production tools. There is also a free version for Linux users to test-drive before taking the pro-version plunge.

## Blender. Again.

As mentioned previously, Blender does everything. Including video-editing. Also industry-grade, it provides live previews, luma waveform, chroma vectorscope and histogram displays. Support is also included for audio mixing, synching, scrubbing, and waveform visualization. Industry-grade, Blender has been used in several Hollywood films.

# Sound

Professional audio for novices and pros alike.

Whether you're looking to create audio-assets for games, soundtracks for videos, or compose tunes for SoundCloud, Linux provides a rich collection of applications for your VCS to start producing audio & music - for any level of user.

## Ardour.

Free and open source, Ardour audio workstation features recording, mixing, editing and mastering of audio projects with no limitations on the amount of audio channels. Functioning as a non-linear / non-destructive recorder, editor and digital audio workstation, Ardour also supports Lua scripting, VCAs and plug-in management. On par with Adobe Audition and Avid Pro Tools, Ardour is the weapon of choice for Linux since 2005.

## Harrison Mixbus.

Another commercial studio-grade solution, Harrison Mixbus provides the DAW features and functionality of Ardour plus access to proprietary plug-ins for advanced equalizers, gates, multi-band compressors and more. Featuring a traditional mixing interface Mixbus includes built-in modeled processing based on the Harrison 32 series and MR series music consoles.

## Ocenaudio.

Simple yet feature-complete, Ocenaudio provides a free and open source solution for VST, advanced spectrograms, and multiple track editing. Similar to Audacity, Ocenaudio is ideal for beginners or users looking to perform quick-edits.





# Music

## LMMS.

Previously known as Linux Multimedia Studio, LMMS provides a powerful open-source suite of audio tools for home recording, production and music composition. LMMS comes with 19 built-in software instruments including synths and drum machines, more than 1000 samples, support for MIDI instruments and hardware interfaces, and an intuitive interface. The multi-track sequencer makes it easy to work with VST instruments, samples, and MIDI sources. Everything you need out-of-the-box to start composing music quickly and easily.

## Tracktion T7.

With unlimited audio and MIDI tracks, Tracktion provides a full range of MIDI tools including automation, learn functionality for external controllers, and a basic MIDI editor. A time-stretch feature makes working with samples simple with extensive support for software instruments & plug-ins in VST, AU and LinuxVST.

## Bristol Audio Synthesis.

A synth emulation package that emulates some of the most famous digital instruments including Moog synths like the Voyager, minimoog, Sonic-6; ARP's Odyssey, Roland's Juno-6, the KORG MS-20 and Polysix, Yamaha DX, and the Commodore 64 SID chip.

## Terminator X.

A unique app that allows scratching of audio files similar to a real turntable. This standalone app features multiple turntables, real-time effects, LADSPA plugin support, sequencing, and MIDI.

# Live

**Have a chat. With a few (thousand) close friends.**

Livestreaming has gone mainstream with services like Twitch, Stream.me and YouTube Live. Now you can broadcast yourself - whether it be a group-chat on Google or Skype, desktop sharing or tutorials, or just show everyone in your audience your gaming prowess - or utter lack thereof.

## OBS Studio.

A free and open-source software suite, OBS Studio is the standard-bearer for recording & live streaming. OBS provides real-time source and device capture, scene composition, encoding, recording, and broadcasting. Transmission of data is performed via Real Time Messaging Protocol (RTMP) and can be sent to any RTMP supporting destination, including many presets for streaming websites such as YouTube, Twitch.tv, Instagram & Facebook.

## Ease-of-use.

Featuring a streamlined UI and settings panels, OBS provides a modular Dock-UI, easy to use configurability, audio mixers with VST plug-in support plus real-time audio-video capturing and mixing from multiple sources including browsers, media players webcams and application windows.

## History.

Open Broadcaster Software started as a small project by Hugh "Jim" Bailey, but quickly grew with online collaborators working to improve it. In 2014, development started on a rewritten version known as OBS Multiplatform featuring a more comprehensive feature set, & powerful API.

# Streaming

## How it works.



The main UI is organized into five sections: scenes, sources, audio mixer, transitions and controls. Scenes are groups of sources like live and recorded video, text and audio. The mixer panel lets you mute the audio, and adjust the volume through virtual faders, and apply effects by pressing the cogwheel next to the mute button. The control panel has options for starting & stopping a stream or recording, a button to transform OBS to a more professional Studio Mode, and an option for settings. The upper section has a live video preview, used to monitor and edit the current scene. The user interface can be switched to dark or light theme depending on user preferences. In studio mode, OBS provides two scene preview windows. The left one for modifying and preview of non-active scenes, with the right window for previewing an active scene. in the middle there is a secondary transition button, allowing for transitions to the non-active scene in the left window.

While it may sound daunting, OBS tutorials are prolific on YouTube that demonstrate how to use Open Broadcaster Software, tours of the settings, best methods for managing transmission bandwidth and reducing encoding lag & latency.

## Castawesome.

A free/libre open source GUI front-end to ffmpeg or avconv, Castawesome allows you to quickly setup your own livestream. It offers a more user-friendly option to manually editing Bash scripts or inputting parameters in terminal. Castawesome doesn't offer as many features as OBS or XSplit, but supports screen regions, frames & bitrates.

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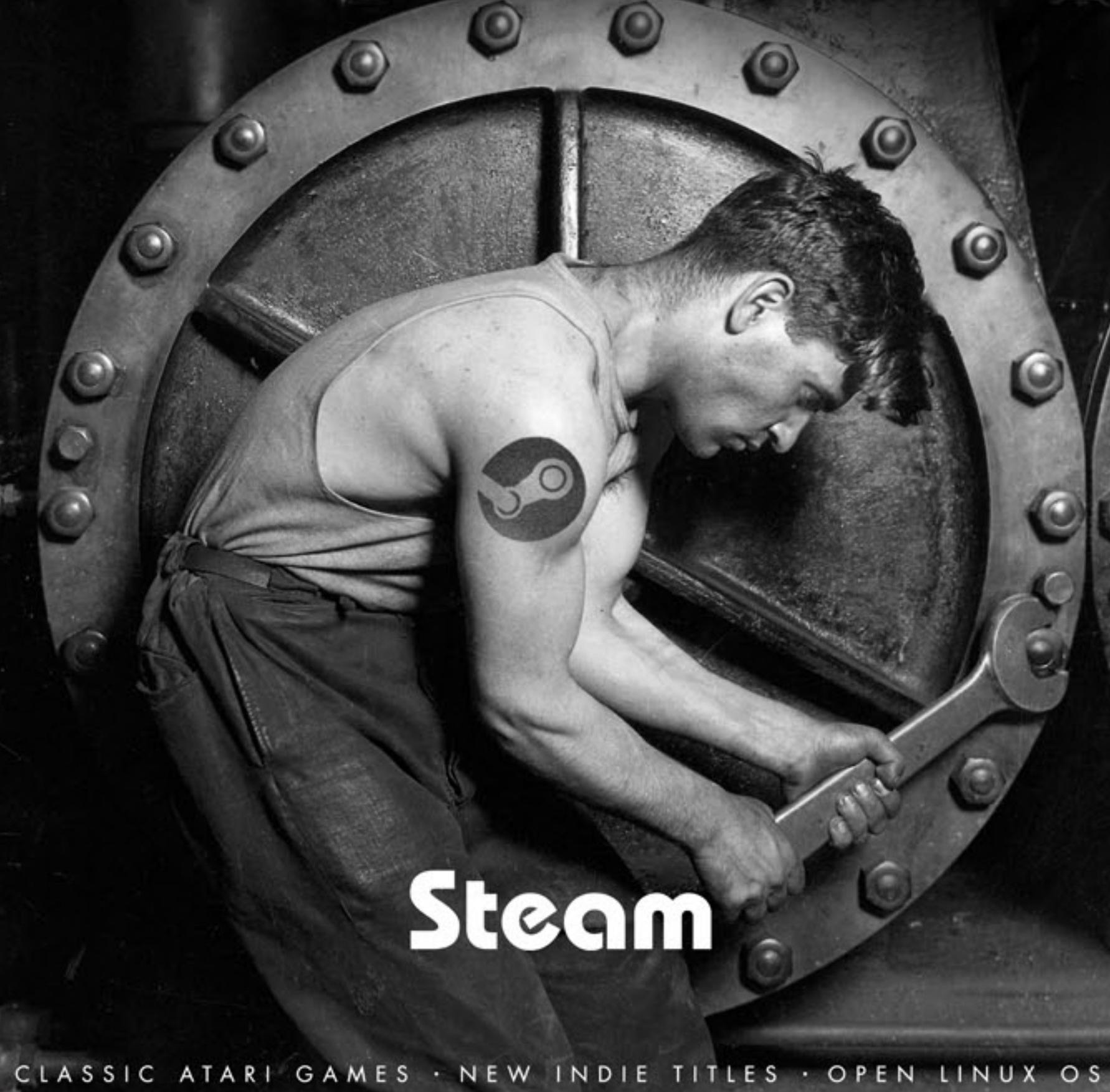
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# TO BE CONTINUED.

At ATARI AGE MAGAZINE™ we design and write about the game system for the independent world that supports both indie players and developers.

And we plan to keep right on doing that.

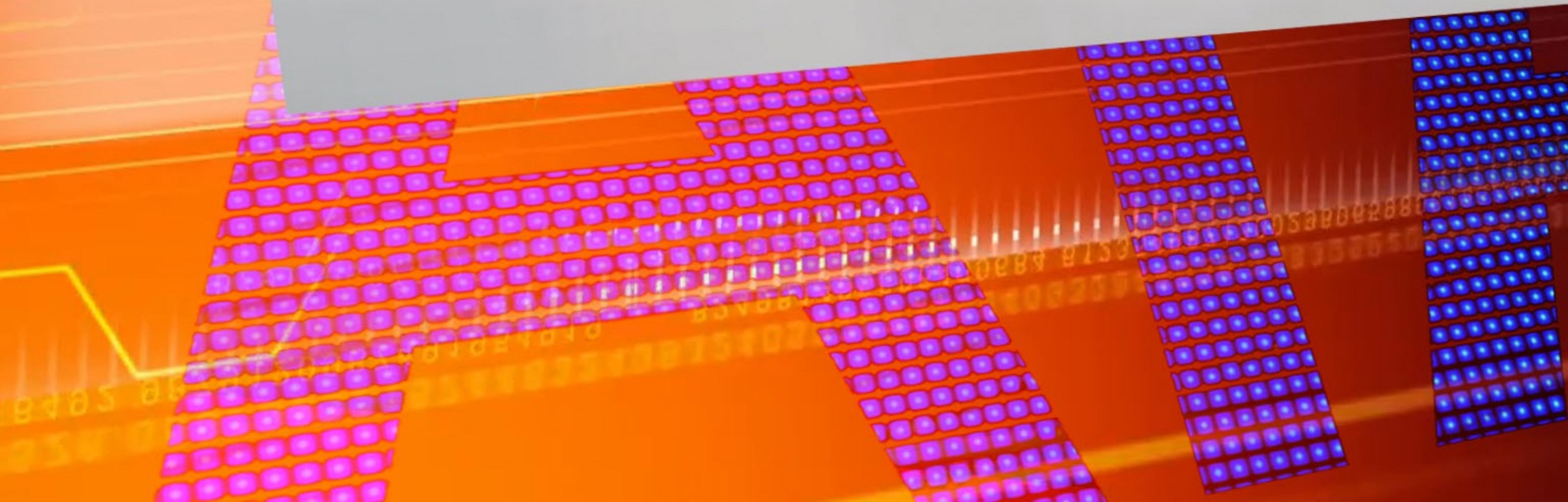
After all, when you invest your time and money in a home video game, isn't it nice to know that the people at your magazine are doing the same?



ATARI AGE MAGAZINE™ EXCLUSIVELY SUPPORTS THE ATARI VCS™

**HAVE YOU PLAYED ATARI® TODAY?**

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# Back on Nasdaq

The fun is back.

After declaring bankruptcy and re-organizing its business units in 2012, Atari CEO Frédéric Chesnais has managed to convert Atari SA's fortunes from 30 million Euros of debt into a 20 million Euro royalty stream and has emerged debt free, leaner & profitable. With its 4 business lines, Atari took a milestone step this quarter of being re-listed on the Nasdaq with an international designation. This means that Atari's shares are now traded on Nasdaq's U.S. exchange. Before, Atari's stock had been listed exclusively in France.

October 16, 2018, 02:54:43 PM EDT : Nasdaq

Nasdaq is proud to welcome Atari S.A. (OTC - Nasdaq Intl Designation: PONGF) as a member to the Nasdaq International Program. Atari S.A. is a French multi-platform, global interactive entertainment and licensing company. Founded in 1972, Atari owns and/or manages a portfolio of more than 200 games and franchises, including world renowned brands like Asteroids®, Centipede®, Missile Command®, Pong®, Test Drive®, Backyard Sports®, Ghostbusters®, and Rollercoaster Tycoon®. Atari capitalizes on these powerful properties by delivering compelling games online (i.e. browser, Facebook® and digital download), on smartphones and tablets and other connected devices

Atari S.A. can now leverage additional visibility in the U.S. investment community and resources for investor relations support. we look forward to helping Atari S.A. grow their brand, increase liquidity and shape their personal message to the investment community.

WHAT YOU WOULD SAY TO A CONSOLE THAT  
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Yes

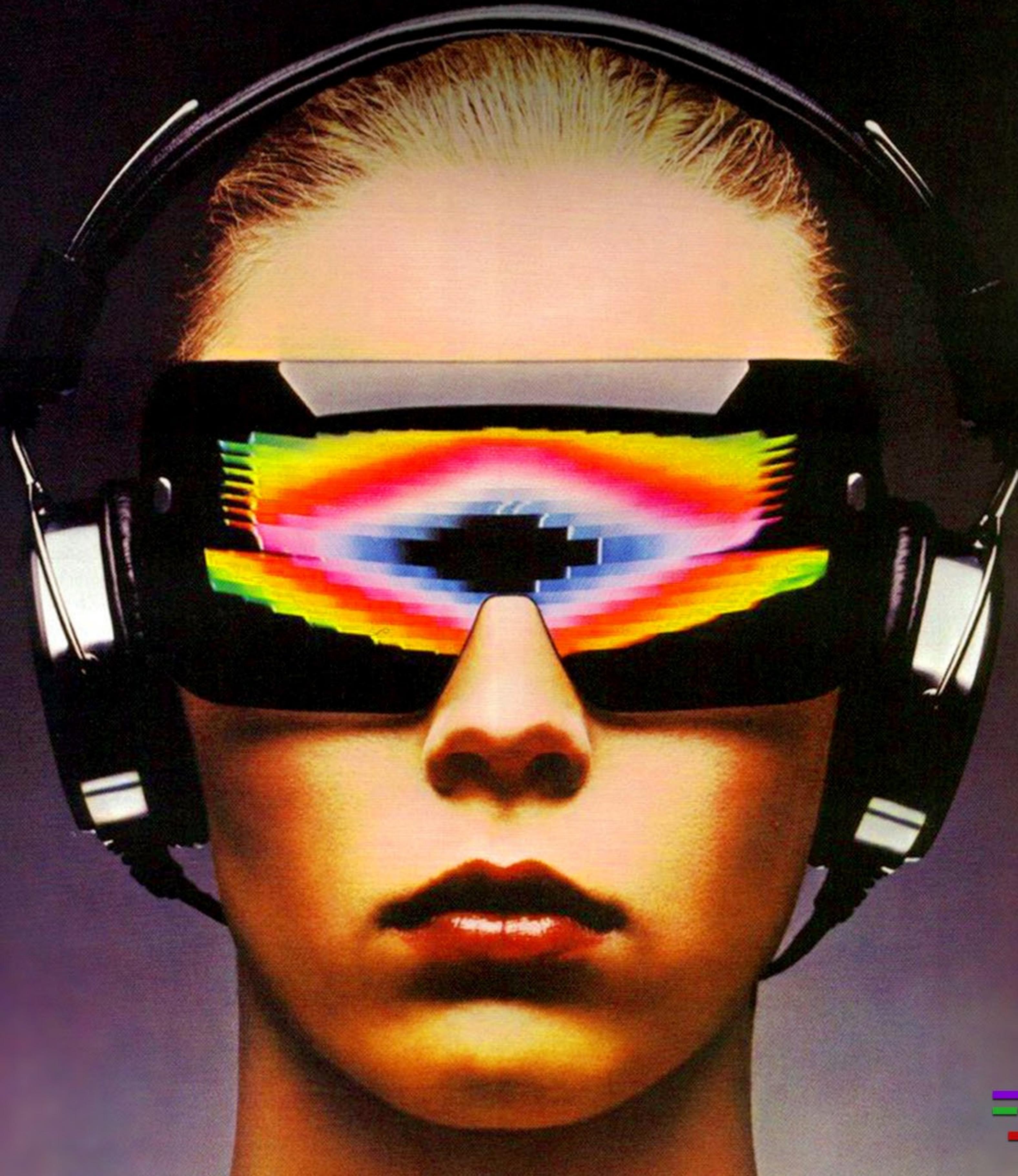


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# Coming Up

Forever.

Future proof. It's not only a dream - it's a reality. Where computing platforms resemble an ever increasing arms-race, tools now exist to stream future advanced hardware to your screen - today. Discover what's around the corner and how your Atari VCS is capable of playing the best games of today, and those of tomorrow.



# Atari



JULY / AUGUST 1982 • VOLUME 1 • NUMBER 2

# Flashback

Welcome to 2019 and 40 years of Atari Computers.

From 1979 to 1993 Atari elevated home computers beyond the bare bones and more expensive offerings from the competition. In the case of the Atari 400 / 800 - real color was introduced to support games. Real sound was provided beyond system clicks and beeps. The trifecta of 1977 - the Apple II, Commodore PET and TRS 80 had none of these. The Atari 8 bit series held top-tier price for performance status well into 1982 and 1983.

The Atari ST line of computers touted the same ease of use of the Macintosh just a year later at a fraction of the price. The desktop publishing model often associated with Apple's late 80s and early 90s heyday was Atari's turf as well. Particularly in price-conscious markets like Europe where 75% of all Atari 16-bit computers would be sold.

What's forgotten, in all the nostalgia for the early days of home computers, is that most-often the customer would first ask themselves or the nearest salesmen "**what can it do?**" The makers touted storing recipes and balancing your checkbook - but these were performed faster with plain old paper. Word Processing and spreadsheets kept microcomputers in the office but at home - primitive games were the most you could expect to do with them. As a result the hobbyist market became saturated in the mid-to-late 80s and adoption-rates stalled at 15% of all households - for a decade.

In 2019, as Atari re-enters the PC market, the tools and architecture available now present the customer with an entirely different question. "**What will I do with it?**" With so many options available, the answer is simple. Whatever you want.

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## Reach out.

The new Atari Age Magazine™ is dedicated to remaining as independent as the new Atari VCS promises to be. We're also looking for developers who want to promote their new VCS game in a feature article, or publishers looking to advertise titles.



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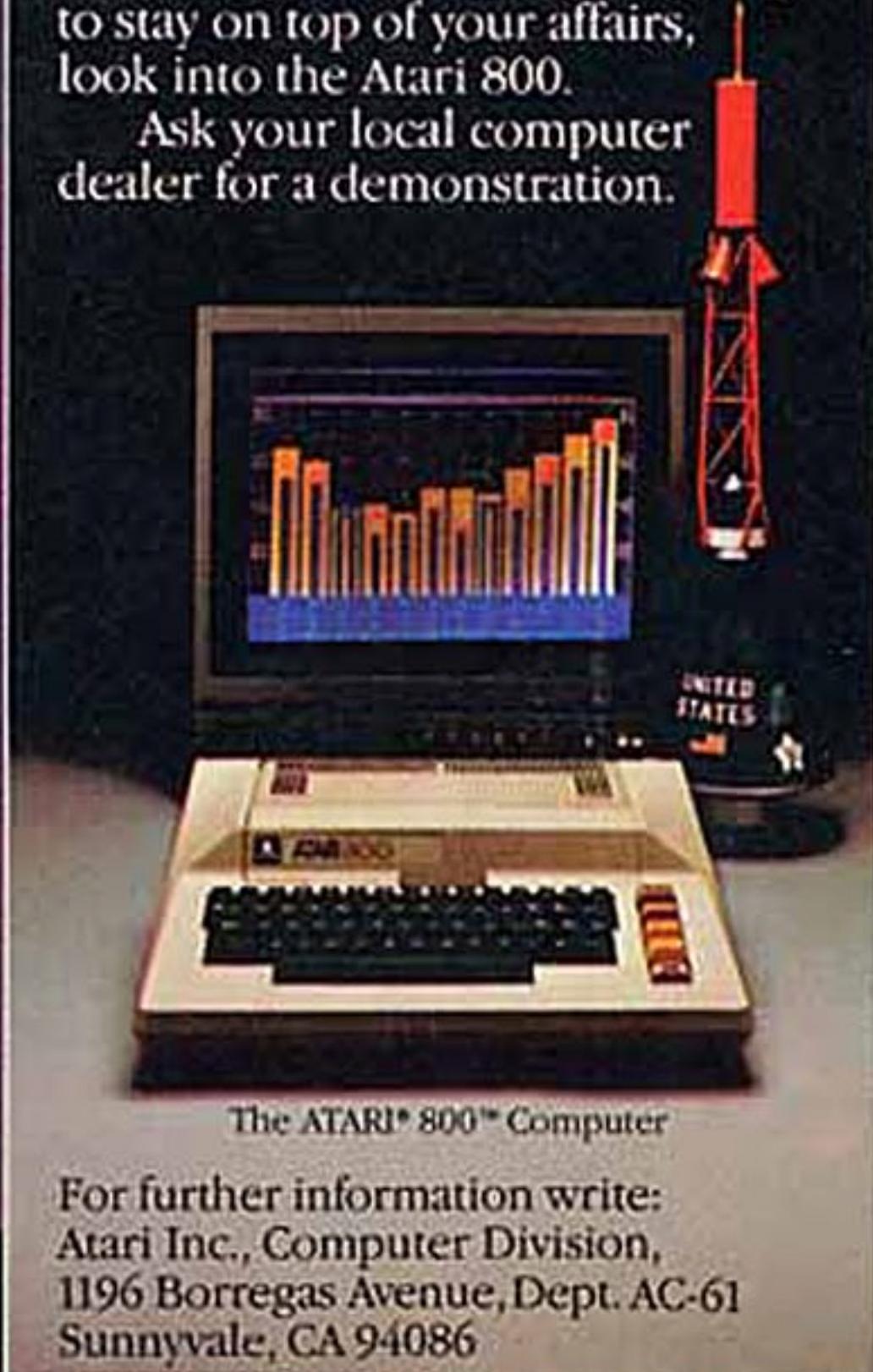
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Gordon Cooper  
Former Astronaut